

CONTRACT #2
RFS # N/A

Tennessee Board of Regents
University of Memphis

VENDOR:
Internet2



Tennessee Board of Regents

1415 Murfreesboro Road - Suite 350 - Nashville, Tennessee 37217-2833
(615) 366-4400 FAX (615) 366-4464 www.tbr.edu

October 22, 2007

RECEIVED

OCT 25 2007

FISCAL REVIEW

Ms. Leni S. Chick
Fiscal Analyst
Rachel Jackson Building, 8th Floor
Nashville, TN 37243

Dear Ms. Chick:

Enclosed please find an Amendment between the University of Memphis and Internet 2 for the renewal fee of their existing Internet2 connection. UOM is the Internet2 connector site for the State of Tennessee and is one of the sponsors of Tennessee's membership in Internet2's Sponsored Education Groups Participants (SEGP) Program which allows access to Internet2 for Tennessee K-12 institutions as well as for all TBR institutions.

Per Fiscal Review's request to see non-competitive agreements/amendments, and the amount and term involved with this amendment, we are submitting this for approval to the Committee. **Please contact me regarding the date this will go before the Fiscal Review Committee and I will inform the representatives to insure they are present for the meeting in which the contract will be discussed.** If you have any questions, please do not hesitate to contact me at 366-4436.

Information regarding the contract may be sent to my attention at the Tennessee Board of Regents, 1415 Murfreesboro Road, Suite 350, Nashville, Tennessee 37217.

Sincerely,

Angela A. Gregory
Director of Purchasing and Contracts

cc: Charles Manning
Bob Adams
William Mueller, UOM
David Zettergren, UOM

Austin Peay State University • East Tennessee State University • Middle Tennessee State University • Tennessee State University
Tennessee Tech University • University of Memphis • Chattanooga State Technical Community College
Cleveland State Community College • Columbia State Community College • Dyersburg State Community College
Jackson State Community College • Motlow State Community College • Pellissippi State Technical Community College
Roane State Community College • Southwest Tennessee Community College • Volunteer State Community College
Walters State Community College • Nashville State Technical Community College • Northeast State Technical Community College
The Tennessee Technology Centers



THE UNIVERSITY OF
MEMPHIS

Office of Legal Counsel

201 Administration Building
Memphis, Tennessee 38152-3370

Office: 901.678.2155
Fax: 901.678.3489

www.memphis.edu

VIA FEDEX

Date: October 17, 2007

To: Angela Gregory
Director of Purchasing & Contracts
Tennessee Board of Regents
1415 Murfreesboro Road, Suite 350
Nashville, Tennessee 37217

From: Billy Mueller

Billy

RE: Purchase Order for Internet2- The University of Memphis

RECEIVED

OCT 25 2007

FISCAL REVIEW

Enclosed please find the original Fiscal Review Request: Non-Competitive Form and Contract Summary Sheet that have been signed by the appropriate university official. I have also attached a spreadsheet that shows all payments to Internet2 since the inception of the relationship with initial payment in March of 1999. Along with the spreadsheet, please find vendor invoices, cancelled checks, and vendor detail history to account for payments made to Internet2.

You have the Amendment that has been revised by TBR Legal Counsel.

Initially, in 1998, this matter was sent to TBR since authorization from the Chancellor was required for any membership costing over \$ 1,000.00. Approval was received from the Chancellor. President Lane Rawlins then signed an Agreement for membership that was previously provided to your office. Since that time, the dollar amount for expenditures with Internet2 for each particular Purchase Order did not exceed the dollar figure that required TBR approval and/or Fiscal Review Committee approval. This is an annual arrangement.

If you have any questions, please contact me at (901) 678-3879.

Thank you for your cooperation in this matter.

Enclosures

Cc: Mr. Ed Koshland
Mr. Mark Reavis

Via E-Mail- Memo Only
Via E-Mail- Memo Only

AMENDMENT TO
ABILENE TERMS OF CONNECTION
AND
TERMS OF PARTICIPATION
EFFECTIVE DECEMBER 1, 1998
BETWEEN
INTERNET 2
(FORMERLY UNIVERSITY CORPORATION FOR ADVANCED INTERNET DEVELOPMENT)
AND
THE UNIVERSITY OF MEMPHIS

The following terms and conditions, as applicable, shall amend, modify, add or delete certain other terms and conditions to the above-referenced Agreement between INTERNET2 (FORMERLY UNIVERSITY CORPORATION FOR ADVANCED INTERNET DEVELOPMENT ("UCAID")) and THE UNIVERSITY OF MEMPHIS ("CONNECTOR"), and are incorporated thereunto by reference and made an integral part thereof. The terms and conditions of this Amendment shall control in the event same conflict with any term or condition of the above-referenced Agreement.

Terms of Connection

- A. Section 15 is modified in that "New York law" is replaced with "Tennessee law" and the part of sentence three beginning with "and if the dispute is not resolved by such negotiation, to arbitrate the dispute before a single arbitrator in Washington, D.C." is deleted.
- B. Section 16 is modified so that "To the maximum extent allowed by applicable law" is inserted at the beginning of the fourth sentence in that section.
- C. Section 17 is modified so that the following is add to the beginning of this section: "To the maximum extent permitted under TN Law . . . "
- D. Section 18 is modified so that the following sentence is added at the end of that section: "The revised term of this Agreement shall be for a period of five (5) years effective upon signature of both parties".
- E. Tennessee Public Chapter No. 878 of 2006, TCA 12-4-124, requires that Contactor attest in writing that Contractor will not knowingly utilize the services of illegal immigrants in the performance of this Contract and will not knowingly utilize the services of any subcontractor, if permitted under this Contract, who will utilize the services of illegal immigrants in the performance of this Contract. The attestation shall be made on the form, Attestation re Personnel Used in Contract Performance ("the Attestation"), which is attached and hereby incorporated by this reference and attached as Attachment 1.

If Contractor is discovered to have breached the Attestation, the Commissioner of Finance and Administration shall declare that the Contractor shall be prohibited from contracting or submitting a bid to any Tennessee Board of Regents institution or any other state entity for a period of one (1) year from the date of discovery of the breach. Contractor may appeal the one

(1) year by utilizing an appeals process in the Rules of Finance and Administration, Chapter 0620.

F. The maximum liability of Connector under this Agreement is \$ 1,250,000.00.

Terms of Participation

A. Section 5 is modified so that the following is add to the last sentence of this section: "To the maximum extent permitted under TN Law".

B. Section 12 is modified so that the following is add to the beginning of this section: "To the maximum extent permitted under TN Law".

C. Section 13 is modified in that "New York law" is replaced with "Tennessee law".

D. Section 14 is modified to read as follows: "In the event of a dispute, the Participant and Internet2 are required to negotiate in good faith for 60 days."

Subject to the terms and conditions set forth in this Amendment, the above-referenced original Agreement between the parties is hereby ratified and confirmed.

INTERNET 2

THE UNIVERSITY OF MEMPHIS

By: _____
Signature

Typed Name

Title

Date

By: _____
Signature

Shirley C. Raines
Typed Name

President
Title

Date

TENNESSEE BOARD OF REGENTS

By: _____
Chancellor Charles Manning

Date: _____

ATTACHMENT

ATTESTATION RE PERSONNEL USED IN CONTRACT PERFORMANCE

CONTRACT NUMBER:	
CONTRACTOR LEGAL ENTITY NAME:	
FEDERAL EMPLOYER IDENTIFICATION NUMBER: (or Social Security Number)	

The Contractor, identified above, does hereby attest, certify, warrant, and assure that the Contractor shall not knowingly utilize the services of an illegal immigrant in the performance of this Contract and shall not knowingly utilize the services of any subcontractor who will utilize the services of an illegal immigrant in the performance of this Contract.

**SIGNATURE &
DATE:**

NOTICE: This attestation MUST be signed by an individual empowered to contractually bind the Contractor. If said individual is not the chief executive or president, this document shall attach evidence showing the individual's authority to contractually bind the Contractor.

ABILENE TERMS OF CONNECTION

EFFECTIVE DECEMBER 1, 1998

1. On or about the Connection Date specified byUCAID when countersigning this Connection Agreement,UCAID will attempt to provide the Connector with access to Abilene. UCAID does not guarantee that any Connector's access to Abilene will begin on its Connection Date.
2. Connectors are given access to Abilene so that they may route Internet protocol ("IP") packets among Abilene Participants. An Abilene Participant is a Member ofUCAID that has entered into an Abilene Participation Agreement withUCAID. Each Connector must list the Participants to which it plans to provide connection services on Schedule 1. Schedule 1 requires the following additional information as to each such Participant:
 - a. Institution Name:
 - b. Maximum bandwidth the Participant may direct to Abilene:
 - c. Planned Date for each Participant to be Connected to Abilene:

Connectors are required to notifyUCAID of any changes in this Participant information.

3. Connectors have no rights to originate or receive any Abilene traffic other than traffic from or to IP addresses provided to the Connector and toUCAID by Participants listed by the Connector on Schedule 1, or such traffic as agreed to byUCAID for the purposes of managing the network.
4. Connectors agree to cooperate in the management of Abilene withUCAID via the Abilene Network Operations Center ("NOC") established byUCAID. Each Connector's cooperation shall include the following:
 - a. shall have a physical network infrastructure which enables Connector to implement the Terms of Connection and the Abilene COU, including the ability to forward only the traffic which is legitimate for Abilene and which only comes from Registered Participants.
 - b. during the application process and during subsequent operations Connector will work with the Abilene NOC to develop a mutual understanding of how routing to the participants occurs, and supplying the NOC with the necessary information to allow successful joint management of the network;

- c. cooperation with UCAID in determining (i) whether violations of the Abilene Terms of Participation or the Abilene Conditions of Use have occurred or are occurring; and, if so, (ii) the Participants and IP addresses that are the source of such violations;
 - d. assistance to UCAID to prevent or cure violations of the Abilene Terms of Participation or Abilene Conditions of Use;
 - e. prompt notification to UCAID of any loss of service to any Participant, or any failure of the connection to perform as expected;
 - f. provision of maintenance services (including problem determination and correction, routing set-up and control, performance monitoring, and security management) 24 hours a day every day;
 - g. provision to UCAID of the name and contact information of a technical contact available at any time to discuss the operational characteristics of the network and any operational problems ("Technical Contact"), and prompt notification of changes in this information;
 - h. provision to UCAID of the name and contact information of a contact for all other matters relating to Abilene ("Executive Contact"), and prompt notification of changes in this information;
 - i. cooperation with UCAID in the introduction of modifications of Abilene, including any new features and any modifications required for the security and privacy of communications across Abilene; and
 - j. in general, cooperation with UCAID, the NOC, and the Participants in working toward the successful implementation of an end to end network using Abilene as its backbone.
5. Each Connector is responsible for the contractual and physical arrangements required to connect such Connector at its point of access to Abilene. UCAID will assist Connectors in arranging for connection but does not guarantee that connections will or can be made successfully or that any Connector will be able to reach agreement with the Abilene Access Provider (e.g. Qwest) regarding the provision of service.
6. Each Connector is responsible for providing UCAID with copies of the current versions of its contracts with Participants and all entities with which it contracts to implement its connection to Abilene or a written statement that Connector has in place the required agreements to enable it to fulfill Connector's responsibilities under this agreement.

7. Each Connector must set forth the expected specific characteristics of each of its connections to Abilene on Schedule 2. Schedule 2 requires the following information: the Location of the Access Node, the name and contact information of the Local Loop Provider, the starting date of the Local Loop connection, the requested date of the Abilene connection, the maximum bandwidth of the Abilene connection, and the framing of the Abilene connection. The Connector is responsible for updating this information as needed.
8. Connector Technical Contact and Executive Contact information are to be shown on Schedule 3, which is to be delivered to UCAID. The Connector is responsible for updating this information as needed.
9. Each Connector must pay UCAID a Connector Fee as shown on in Schedule 4. A purchase order or payment of a deposit of 10% of the Connector Fee must accompany each Connector's signed Abilene Connection Agreement. The balance of the fee is due within 30 days after the Connection Date assigned by UCAID. The fee for each subsequent year will be payable before each anniversary of the Connector's Connection Date, unless either the Connector or UCAID has given notice of termination at least 90 days before the anniversary of the Connection Date. In the event that Connector withdraws without completing the connection or paying the full fees, it may forfeit the deposit. UCAID will use its judgement to decide whether any refund should be made.
10. Connectors agree to use their best efforts to maintain the connection between Abilene, the Connector and their Participants continuously at all times at which Abilene is available to such Participants. Connectors agree not to violate or tamper with the security of any Abilene equipment or program.
11. Connectors agree to notify the NOC promptly of any known or suspected breach of or challenge to Abilene security or any known or suspected unauthorized use of a Connector's facilities to access Abilene. The Abilene NOC will notify Connector and Participants of any known breach of or challenge to the Abilene network potentially affecting them.
12. Connectors agree to route traffic from non-Abilene Participant addresses or addressed to non-Abilene Participant addresses over networks other than Abilene to the greatest extent allowed by current routing technology. Connectors agree to design their networks, to use current routing technology and to upgrade to new routing technology when it becomes available to implement the Abilene COU as fully as possible. Where this causes serious difficulty, the Connector and Abilene will consult to come up with mutually acceptable solutions until the full solution can be reasonably implemented.
13. This Abilene Connection Agreement may be terminated for convenience by the Connector, by giving 90 days notice to UCAID via fax or letter mail. In

the event of such termination, the Connector will cooperate in good faith with UCAID and the Participants attached to the Connector with respect to any transition arrangements requested by UCAID. No fees will be refunded by UCAID to a Connector in the event of termination for convenience.

UCAID may refuse to renew this Agreement according to Section 18.

This agreement may be terminated for cause by either party for failure of the other party to comply with the terms of this agreement. Prior to termination, the party wishing to terminate the agreement must notify the other party in writing of the reason(s) for termination and the party so notified will have five (5) business days to respond. If the parties concur that termination is appropriate they will execute a termination of this agreement. If the parties are unable to resolve the reasons satisfactorily to both parties then Section 15 will be used for the purposes of resolution.

14. UCAID may modify these Terms of Connection at any time and from time to time by giving 30 days notice to any Connector or if specifically approved by its Board of Trustees by giving no notice. UCAID will email to Connector's Executive Contact notice of any change to these Terms of Connection, and each Connector's use of its connection to Abilene after UCAID has posted any such modification on the Abilene website will constitute its continuing agreement to the Terms of Connection as so modified. Subject to the transition provision set forth in Section 13, each Connector has the right to terminate its connection to Abilene at any time if the Terms of Connection are modified in a way that is not acceptable to Connector.
15. A Connector may not assign any of its rights or obligations under its Abilene Connection Agreement to any other person without UCAID's written consent. Abilene Connection Agreements are governed by New York law. In the event of a dispute, the Connector and UCAID are required to negotiate in good faith for 60 days, and if the dispute is not resolved by such negotiation, to arbitrate the dispute before a single arbitrator in Washington, D.C.
16. UCAID reserves the right to interrupt, suspend or reduce service to any Connector, any Participant, or any other person, when such action is necessary in UCAID's sole judgement. UCAID will endeavor where reasonably possible, but does not promise, to provide advance notice to Connector of any such interruption, suspension, or reduction. As soon as possible following the interruption, suspension or reduction UCAID will contact the Connector and any attached Participants in an attempt to resolve any problems and restore service. NOTWITHSTANDING ANY OTHER PROVISION OF THESE TERMS OF CONNECTION, UCAID SHALL NOT BE LIABLE TO ANY CONNECTOR, PARTICIPANT, OR OTHER PERSON FOR ANY ERROR IN TRANSMISSION OR FOR ANY INTERRUPTION OR TERMINATION OF PARTICIPATION, EITHER PARTIAL OR TOTAL, EITHER INTENTIONAL OR ACCIDENTAL (INCLUDING ANY ERROR, INTERRUPTION OR TERMINATION DUE TO THE DELIBERATE MISCONDUCT OR NEGLIGENCE OF ANY

PERSON), WHETHER OR NOT PRIOR NOTICE OF ANY SUCH INTERRUPTION OR TERMINATION HAS BEEN GIVEN.

17. ABILENE IS PROVIDED ON AN AS IS, AS AVAILABLE BASIS, WITHOUT WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. UCAID EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY THAT ABILENE WILL BE ERROR-FREE, SECURE, OR UNINTERRUPTED. NO STATEMENT, ORAL OR WRITTEN, GIVEN BY UCAID, ANY OF ITS EMPLOYEES, OR ANY OTHER PERSON WILL CREATE A WARRANTY, NOR MAY ANY CONNECTOR, PARTICIPANT, OR OTHER PERSON RELY ON ANY SUCH STATEMENT FOR ANY PURPOSE.
18. Each Abilene Connection Agreement comes into force on its Connection Date and remains in force for one year and from year to year thereafter unless either UCAID or Connector notifies the other to the contrary at least 90 days before the anniversary of the Connection Date.
19. Each Abilene Connection Agreement, including the Terms of Connection and Schedules and its remaining attachments, constitutes the entire understanding between a Connector and UCAID with respect to Connector's connection to Abilene and supersedes any prior understanding or agreement, written or oral, between the Connector and UCAID respecting that subject matter. No other representation or other statement, written or oral, is binding on Connector or UCAID.

ABILENE TERMS OF PARTICIPATION EFFECTIVE AS OF DECEMBER 1, 1998

1. Participation in the Abilene Network ("Abilene") is available only to Members of UCAID who (i) agree to adhere to these Abilene Terms of Participation, and (ii) are approved by UCAID for Abilene Participation ("Participants").
2. Traffic over Abilene shall consist of IP packets traveling between and among Abilene Participants. Each Participant shall determine the IP addresses to and from which Abilene traffic may travel and shall provide a list of such addresses to UCAID and update the list as needed.
3. A Participant may make access to Abilene available only to persons in the following categories, such persons to be selected by the Participant: (i) its students; (ii) members of its faculty; (iii) its employees; (iv) other individuals that normally have access to Participant's networks when Participant judges those individuals to fall within the spirit of the Abilene Conditions of Use, and (v) any other person with the prior written consent of UCAID.
4. In selecting the persons who will have access to Abilene, each Participant shall seek to ensure that the expected traffic over Abilene to and from such persons will consist primarily of research or educational materials and will otherwise conform to the Abilene Conditions of Use. The Abilene Conditions of Use currently in effect are set forth in Appendix A to these Terms of Participation. The Abilene Conditions of Use may be modified from time to time by UCAID. Each Participant shall inform the persons to whom it has provided access to Abilene about the Abilene Conditions of Use.
5. UCAID reserves the right to interrupt, suspend or reduce service to any Connector, any Participant, or any other person, when such action is necessary in UCAID's sole judgement. UCAID will endeavor where reasonably possible to provide advance notice to the Participant of any such interruption, suspension, or reduction. As soon as possible following the interruption, suspension or reduction UCAID will contact the Participant in an attempt to resolve any problems and restore service. If requested by UCAID Participant agrees to temporarily suspend some or all of its traffic and collaborate to resolve any problems. NOTWITHSTANDING ANY OTHER PROVISION OF THESE TERMS OF PARTICIPATION, UCAID SHALL NOT BE LIABLE TO ANY PARTICIPANT OR ANY OTHER PERSON FOR ANY ERROR IN TRANSMISSION OR FOR ANY INTERRUPTION OR TERMINATION OF PARTICIPATION, EITHER PARTIAL OR TOTAL, EITHER INTENTIONAL OR ACCIDENTAL

(INCLUDING ANY ERROR, INTERRUPTION OR TERMINATION DUE TO THE DELIBERATE MISCONDUCT OR NEGLIGENCE OF ANY PERSON), WHETHER OR NOT PRIOR NOTICE OF ANY SUCH INTERRUPTION OR TERMINATION HAS BEEN GIVEN.

6. This Abilene Participation Agreement may be terminated for convenience by the Participant, by giving 30 days notice to UCAID via fax or letter mail. No fees will be refunded by UCAID to a Participant in the event of termination for convenience.

UCAID may withdraw all or part of this service at some future date. In this event UCAID will endeavor to provide substantial notice and work with the Participant to effect a smooth transition.

This agreement may be terminated for cause by either party for failure of the other party to comply with the terms of this agreement. Prior to termination, the party wishing to terminate the agreement must notify the other party in writing of the reason(s) for termination and the party so notified will have five (5) business days to respond. If the parties concur that termination is appropriate they will execute a termination of this agreement. If the parties are unable to resolve the reasons satisfactorily to both parties then Section 14 will be used for the purposes of resolution.

7. Each Participant is responsible for all arrangements, both contractual and physical, for establishing its connection to Abilene. Such arrangements include, but are not limited to, providing, operating, and maintaining the equipment necessary for connection to Abilene. Although such arrangements are the Participant's responsibility, UCAID will provide advice and assistance as available, and UCAID has the right to object to any arrangement that it deems inconsistent with the objectives or the successful operation of Abilene.

8. UCAID will normally operate Abilene 24 hours per day every day. However, UCAID expects, and shall have the right, to suspend the operation of Abilene from time to time for purposes of testing and maintenance. UCAID will attempt to provide advance explanation and warning of changes to the service with a view to allowing mutually satisfactory implementation of end to end service.

In the event of an emergency and to protect the network or other Participants UCAID may modify, suspend, or discontinue any aspect of Abilene, without prior notice, impose limits on Abilene features and services, or restrict any Participant's access to any part or all of Abilene. As soon as possible thereafter, UCAID will contact the Participant in an attempt to resolve any problems and to reestablish service.

9. Participants are responsible for establishing and maintaining their own access security, including the security of user identification, passwords, and any other confidential information related to their participation. Participants' security standards for access to Abilene must conform to the Abilene Conditions of Use.

10. Each Participant shall promptly notify UCAID of any known or suspected unauthorized use of its access to Abilene and of any known or suspected breach of security. The Abilene NOC will notify the Connector and Participants of any known breach of or challenge to the Abilene network potentially affecting them.
11. Each Participant shall promptly notify its Connector and UCAID (via the Abilene NOC) of errors, system failures, or other interruptions in service of Abilene. For other service issues, a Participant should notify the Abilene Project Director or the Director's nominee. Names and contact numbers will be posted on the Abilene website.
12. ABILENE IS PROVIDED ON AN AS IS, AS AVAILABLE BASIS, WITHOUT WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. UCAID EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY THAT ABILENE WILL BE ERROR-FREE, SECURE, OR UNINTERRUPTED. NO STATEMENT, ORAL OR WRITTEN, GIVEN BY UCAID, ANY OF ITS EMPLOYEES, OR ANY OTHER PERSON WILL CREATE A WARRANTY, NOR MAY ANY PARTICIPANT RELY ON ANY SUCH STATEMENT FOR ANY PURPOSE.
13. A Participant may not assign any of its rights or obligations under its Abilene Participation Agreement to any other person without UCAID's written consent. This Abilene Participation Agreement is governed by New York law.
14. In the event of a dispute, the Participant and UCAID are required to negotiate in good faith for 60 days, and if the dispute is not resolved by such negotiation, to arbitrate the dispute before a single arbitrator in Washington, D.C.

THE UNIVERSITY OF MEMPHIS®

Procurement Services
115 Administration Bldg
Memphis, TN 38152-3370
Phone (901) 678-2265 Fax (901) 678-2102

PURCHASE ORDER

THIS NUMBER MUST BE SHOWN ON ALL
INVOICES, PACKAGES AND
CORRESPONDENCE RELATED TO ORDER.

ISSUED Internet2
TO: 1000 Oakbrook Dr Ste 300
Ann Arbor MI 48104-6815

PO Number: **P0014914**

Issue Date: 06/22/07

Page No: 1

Delivery Date: 07/01/07

Vendor ID: U00005704

Please supply the following items or services in accordance with terms of your quotation, to the University of Memphis, Memphis, TN. ALL DELIVERY CHARGES ARE TO BE PREPAID AND INCLUDED IN THE PRICES SHOWN UNLESS OTHERWISE INDICATED BELOW. Cash discounts, when authorized, will be computed from the date of delivery or from the date correct invoices are received, whichever is later.

SHIP TO:

SEND INVOICE IN DUPLICATE TO:

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112 Administration Bldg
3720 Alumni Dr
Admin Bldg Room 112
Memphis TN 38152-3370
ATTN: Tina Magueyal

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University of Memphis
Accounting Office
275 Administration Bldg
Memphis, Tennessee 38152-3370

THE UNIVERSITY OF MEMPHIS IS AN EQUAL OPPORTUNITY, NON-RACIALLY IDENTIFIABLE, EDUCATIONAL INSTITUTION THAT DOES NOT DISCRIMINATE AGAINST INDIVIDUALS WITH DISABILITIES.

ITEM	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	EXTENSION
1	1.00	EA	<p>Furnish maintenance support on the below listed software program(s) or module(s) for the period of time as stated in the Start date and End date section of this purchase order. The location of this software is listed in the above Ship To section. All invoices are to be annotated with this purchase order number, department name, and name of the software, license agreement number(s) if applicable. The actual end user(s) will be listed below in the item numbers and may or may not be the location listed in the above Ship To section of this purchase order</p> <p>*****</p> <p>Connection Fee Period: July 1, 07 thru June 30, 08</p> <p>Abilene Connection Fee (GIGE)</p>	250,000.0000	250,000.00
TOTAL:					CONTINUED

REVIEWED
AS TO LEGAL FORM & CONTENT

WJM@uon

OFFICE OF LEGAL COUNSEL

7/10/07
DATE

MSDS SHEETS MUST BE FURNISHED WITH SHIPMENT FOR APPLICABLE PRODUCTS. IF MAILED SEPARATELY FROM SHIPMENT, OUR PURCHASE ORDER NUMBER MUST BE SHOWN ON THE SHEET.

DROP SHIPMENTS MUST SHOW ORIGINAL VENDOR AND OUR ORDER NUMBER.

AUTHORIZED
SIGNATURE:

Shirley C. Rainer
FOR THE UNIVERSITY OF MEMPHIS

ACCOUNTING INFORMATION:

124000-340000-74431 250,000.00

APPROVED:

TRR

THE UNIVERSITY OF MEMPHIS®

Procurement Services
115 Administration Bldg
Memphis, TN 38152-3370
Phone (901) 678-2265 Fax (901) 678-2102

PURCHASE ORDER

THIS NUMBER MUST BE SHOWN ON ALL
INVOICES, PACKAGES AND
CORRESPONDENCE RELATED TO ORDER.

ISSUED TO: Internet2
1000 Oakbrook Dr Ste 300
Ann Arbor MI 48104-6815

PO Number: **P0014914**

Issue Date: 06/22/07

Page No: 2

Delivery Date: 07/01/07

Vendor ID: U00005704

Please supply the following items or services in accordance with terms of your quotation, to the University of Memphis, Memphis, TN. ALL DELIVERY CHARGES ARE TO BE PREPAID AND INCLUDED IN THE PRICES SHOWN UNLESS OTHERWISE INDICATED BELOW. Cash discounts, when authorized, will be computed from the date of delivery or from the date correct invoices are received, whichever is later.

SHIP TO:

SEND INVOICE IN DUPLICATE TO:

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112 Administration Bldg
3720 Alumni Dr
Admin Bldg Room 112
Memphis TN 38152-3370
ATTN: Tina Magueyal

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University of Memphis
Accounting Office
275 Administration Bldg
Memphis, Tennessee 38152-3370

THE UNIVERSITY OF MEMPHIS IS AN EQUAL OPPORTUNITY, NON-RACIALLY IDENTIFIABLE, EDUCATIONAL INSTITUTION THAT DOES NOT DISCRIMINATE AGAINST INDIVIDUALS WITH DISABILITIES.

ITEM	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	EXTENSION
			For period of 07/01/07-06/30/08 For The University of Memphis		
				TOTAL:	250,000.00

MSDS SHEETS MUST BE FURNISHED WITH SHIPMENT FOR APPLICABLE PRODUCTS. IF MAILED SEPARATELY FROM SHIPMENT, OUR PURCHASE ORDER NUMBER MUST BE SHOWN ON THE SHEET.

DROP SHIPMENTS MUST SHOW ORIGINAL VENDOR AND OUR ORDER NUMBER.

AUTHORIZED
SIGNATURE: _____

FOR THE UNIVERSITY OF MEMPHIS

ACCOUNTING INFORMATION:

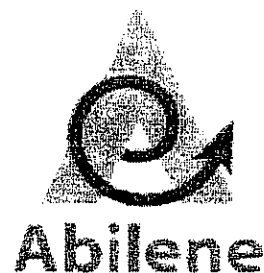
124000-340000-74431

250,000.00

VENDOR COPY

INTERNET_®

20006181



Abilene Connection

Bill To
Mr. Ed Koshland The University of Memphis 105 Administration Building Memphis, TN 38152-3370

INVOICE NO. 5105
DATE ISSUED 6/7/2007
TERMS Due on 7/1/2007

20014914

Description	Amount
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Abilene Connection Fee (GIGE) \$USD 250,000.00
For Period of 7/1/2007 - 6/30/2008
For The University of Memphis

Please Pay This Amount \$USD 250,000.00

REMITTANCE STUB

(Please Return)

Account #: 10451

Invoice #: 5105

UCAID
PO Box 7855
Ann Arbor, Michigan 48107

Abilene Connection Fee
(GIGE)

\$USD 250,000.00 []

Total \$USD 250,000.00

Payment can be made in two ways. Please be sure to
reference your invoice number on any payment remittance.
All amounts are in USD. Thank you.

ACH Deposit to: Checks Payable to:
Bank of Ann Arbor Internet2
Routing Number: 072413735 PO Box 7855
Account Number: 0100012418 Ann Arbor, Michigan 48107

TAX ID #: 52-2060187

Other costs:

Memphis:

1. cost of fiber and/or other solution from Univ Memphis campus demark to Level 3 Pop in Memphis (assumed for now to be something that Univ Memphis does on its own). As previously provided, the following providers have fiber into the Level 3 Pop in Memphis: Bell South, Time Warner Communications, XO Communications, Memphis Network
2. your cost on equipment if you fight up plus all other colt, operational and management expenses.

NOTE: Once on the Level 3 Memphis Pop, the Level 3 Wave "backhaul" service includes the price of a single cross connect between the Level 3 Wave gear in the Gateway to what is considered the "Internet2/Memphis demark" within the Level 3 Gateway. The Internet2/Memphis demark can be your "colt" in Memphis (if you will have this) or a CPE/CPA provider within the gateway.

Nashville:

In Nashville, Level 3 will take the backhaul wave to our Nashville site at the MFP via a cross connect; there will be no additional cost for that cross connect.

Univ Memphis - Annual costs for Internet2 - 2007 (sample year) DRAFT and only for discussion purposes

Internet2 Membership: \$30,000 annual

NOTE: as noted previously, a new membership model is being reviewed by NPPAC and with input of the community, will be in place by 2008. There could be a slight increase in fees which would be in line with previous increases through out the past 5 years.

The following scenarios are based ONLY on Internet2 (plus transport over Level 3) costs in connecting to the Nashville node. New connection fees will go into effect when an Abilene agreement comes up for renewal and transition to the new Internet2 Network has already occurred. The following estimates are provided only as budgetary estimates for an annual "cost"

Network Cost scenario 1

Internet2 Costs - New Network	2007
Network Participation	\$ 22,000.00
Network Access Fee - 2.5 Gbps (or can also be the 2x1 GIGE service)	\$ 340,000.00
Transport to Nashville node	
Transport to Nashville (via Level 3 OC-48) based on 5 year term	48,000
SUBTOTAL	\$ 410,000.00

Cost scenario 2

Internet2 Costs - New Network	2007
Network Participation	\$ 22,000.00
Network Access Fee - 1 GIGE	\$ 230,000.00
Transport to Nashville node	
Transport to Nashville (via Level 3 OC-48) based on 5 year term	48,000
SUBTOTAL	\$ 320,000.00

Potential Savings/add on's	
Community savings over new Internet2 network (min commit is 200 Mbps at estimated \$23/Mbps/per month)	\$(5,200.85)
New Subtotal	\$ 394,800.00

Potential Savings/add on's	
Community savings over new Internet2 network (min commit is 100 Mbps at estimated \$25/Mbps/per month)	\$(30,000.00)
New Subtotal	\$ 290,000.00

NOTE: the potential savings here are based on the minimum commit for IP community - if more purchased these amounts will be further reduced. Also, with the content peering project, one could also anticipate these numbers to be even further reduced



University of Memphis – Summary of Internet2 Fees (October 2006)

Internet2 Membership (annual): \$30,000¹

Internet2 Network Participation (annual): \$22,000²

Network Access Fees for New Internet2 Network (annual)

- New connection fees will go into effect when an Abilene agreement comes up for renewal and transition to the new Internet2 Network has already occurred. These fees include the ability to opt-in to the commercial peering service at no additional charge. Commodity Internet access is also an opt-in service and must be purchased in addition to the connection fees³.
- For Univ Memphis, closest Internet2 node (i.e., full add/drop, grooming box) is in Nashville, TN. Univ Memphis New Network connection can start shortly after Nashville node is up and running, date is expected to be at or around end of April 2007.

	2006	2007	2008	2009	2010
OC-3	\$110,000	\$110,000 legacy only			
OC-12	\$220,000	\$220,000 legacy only			
1 GgE	\$250,000	\$250,000 \$25/Mbps commodity per 100 Mbps commit	\$250,000 \$23/Mbps commodity per 100 Mbps commit		
2 x 1 GgE	N/A	\$340,000 \$23/Mbps commodity per 100 Mbps commit	\$340,000 \$21/Mbps commodity per 100 Mbps commit	\$340,000 \$16/Mbps commodity per 100 Mbps commit	\$340,000 \$13/Mbps commodity per 100 Mbps commit
2.5 Gbps	\$340,000	\$340,000 \$23/Mbps commodity per 200 Mbps commit	\$340,000 \$21/Mbps commodity per 200 Mbps commit	\$340,000 \$16/Mbps commodity per 200 Mbps commit	
10 Gbps	\$480,000	\$480,000 \$20/Mbps commodity per 500 Mbps commit	\$480,000 \$19/Mbps commodity per 500 Mbps commit	\$480,000 \$17/Mbps commodity per 500 Mbps commit	\$480,000 \$16/Mbps commodity per 500 Mbps commit
2 x 10 GgE	N/A	\$550,000 \$17/Mbps commodity per 500 Mbps commit	\$550,000 \$16/Mbps commodity per 500 Mbps commit	\$550,000 \$14/Mbps commodity per 500 Mbps commit	\$550,000 \$13/Mbps commodity per 500 Mbps commit

Transport to Nashville

Option for transport is via an OC-48 wave (2.5 Gbps) from Memphis to Nashville. As noted on last call, Level 3 cannot offer a 1 GgE wave from Memphis to Nashville. This 2.5 Gbps wave is from the Level 3 pop in Memphis to the Level 3 PoP in Nashville.

1 year lease:	3 year lease:	5 year lease:
\$ 5,000 MRC (~ \$60,000 annual) \$ 5,000 NRC	\$ 4,250 MRC (~\$51,000 annual) \$ 5,000 NRC	\$4,000 MRC (~\$48,000 annual) \$5,000 NRC

Connection to Nashville Internet2 node:

Internet2 would connect the 2.5 Gbps wave to its Ciena CoreDirector CI grooming box in Nashville and would be able to provision a 1 Gbps or 2.5 Gbps HDLC Packet on Sonet connection to its IP infrastructure on this link for a 1G or 2.5Gbps connection speed.

The University of Memphis may need an OC48 POS interface for its equipment to accept this link. Internet2 would be willing to work with University of Memphis to identify other Internet2 connectors that may have one of these cards available as they transition from OC48 to 10G interfaces.

Alternatively, if Memphis chose the 2x1GgE service to allow access both to the IP network and to the dynamic wave services available on the new Network, the University of Memphis may choose to purchase a small Ciena CI box for the Memphis end of the 2.5 Gbps wave to break the wave in to multiple 1G interfaces over the 2.5 Gbps wave.

¹ For 2006 and onward, a new membership model is being worked out and will be sent to the Network Planning and Policy Advisory Council (NPPAC) for comment.

² Participation Fees for 2008 and beyond are under review and will be made available by December 2006.

³ Commodity prices are estimates and will be determined in part by market conditions. Commodity and peering connections will be provided on a separate routing and forwarding instance from the traditional Internet2 IP network.

Letter of Application (Rev-1)

University Corporation for Advanced Internet Development
200 Business Park Drive, Suite 307,
Armonk, NY 10504

ATTN: *S. Pepe.*

Re: Abilene Participation Application

Dear *Dr. Rogers;*

As a Member of University Corporation for Advanced Internet Development ("UCAID"), we, The University of Memphis (*name of applicant*) are committed to the objectives of Internet2, including the promotion of advanced networking research to support higher education. To that end, we wish to join other UCAID Members in participating in the high-performance backbone network called Abilene as of the Participation Date below. We understand that Abilene is intended to encourage the development of advanced network applications and services and has experimental attributes that distinguish it from standard networks. We have asked UCAID ("you") to lead the design, development and operation of Abilene, on behalf of and for the benefit of all participating Members.

We agree to abide by the Abilene Network Terms of Participation. The Terms of Participation in effect as of December 1, 1998 are attached to this Application. We understand that you may modify the Terms of Participation from time to time by giving 30 days prior notice to us or without notice if authorized to do so by the UCAID Board of Trustees. We agree that our continuing use of Abilene ("Abilene Participation"), after you have posted any such modification on the Abilene website, will constitute our continuing agreement to the Terms of Participation as so modified. We have the right to terminate our Abilene Participation at any time if the Terms of Participation are modified in a way that is not acceptable to us.

We have supplied you with information about our intended means of connection to Abilene, including the names of our Connector, and contact information (a) for the resolution of problems involving the operation of the network (the "Participant Technical Contact") and (b) for all other matters (the "Participant Executive Contact") on Exhibit A to this Application.

When this Application is countersigned by you, it will become an Abilene Participation Agreement and we will become an Abilene Participant.

We have enclosed a check or purchase order for the Abilene Participation Fee for the first year of our Participation, which is refundable if you do not countersign this application, but is not refundable if we cancel our participation



The Abilene Participation Agreement, including its attachments, constitutes the entire understanding between you and us with respect to our use of Abilene and supersedes any prior understandings and agreements, written or oral, between you and us regarding this subject matter. No representation or other statement, written or oral, will be binding on you or us unless it is set forth in this Agreement, the Terms of Participation, or the Appendix thereto.

MEMBER

Date: 3-30-99

Its: VP - Information Systems & CIO
[print title]

Participation Date: 9/1/99

Date: 10/15/1997

Its: President _____
[print title]

Participation Date: 9/1/99

signature

Date: _____

By: _____
 print name

Its: print title



Letter of Application (Rev-1)

University Corporation for Advanced Internet Development (UCAID)
200 Business Park Drive, Suite 307,
Armonk, NY 10504

ATTN: S. Pepe

Re: Abilene Connection Agreement

Dear Dr. Rogers,

We, The University of Memphis ("Connector") are (*check one*) an Abilene Participant Member of UCAID acting as its own Connector (X), or a non-Member Connecting Gigapop acting as Connector for one or more Abilene Participants (). We understand that Abilene is an experimental high-performance backbone computer network that is part of the Internet2 project to serve the international research and education community with advanced network technology. We wish to assist in making the services of Abilene available to Abilene Participants and to join in the deployment of new services agreed on by the Internet2 community.

We agree to abide by the Abilene Terms of Connection. The Terms of Connection in effect as of December 1, 1998 are set forth below. This Abilene Connection Agreement includes the Terms of Connection and all Schedules required thereby.

We request that the connection(s) be established according to Schedule 2 attached, and we enclose a Purchase Order for \$11,000 as a 10% deposit against the total Connection Fee for these connections, made payable to UCAID.

CONNECTOR

UCAID

100 Jones Hall
Street Address

Authorized Signature Date

Memphis, TN 38152
City/State/Zip

Title

Authorized Signature Date

Connection Date (supplied by UCAID)

Dr. James I. Penrod, VP - Information Systems & CIO
Print Name and Title

Authorized Signature Date

Dr. V. Lane Rawlins, President
Print Name and Title

COPY

Subject to the terms and conditions set forth in this Amendment, the above-referenced original Agreement between the parties is hereby ratified and confirmed.

**UNIVERSITY CORPORATION FOR
ADVANCED INTERNET DEVELOPMENT**

By: _____
Signature

Typed Name

Title

Date

THE UNIVERSITY OF MEMPHIS

By: _____
Signature

Shirley C. Raines
Typed Name

President
Title

Date

TENNESSEE BOARD OF REGENTS

By: _____
Chancellor Charles Manning

Date: _____

SCHEDULE 1

PARTICIPANTS USING CONNECTOR AS THEIR CONNECTION TO ABILENE

[TO BE PROVIDED BY CONNECTOR; ONE PAGE FOR EACH
PLANNED PARTICIPANT]

- a. Name of Participant: *The University of Memphis*
- b. Maximum bandwidth Participant can direct to Abilene:
DS3 () OC3 (X) OC12 () Other
- c. Planned Date for this Participant to be Connected to Abilene: *9/1/99*

EACH PARTICIPANT MUST BE A PARTY TO AN ABILENE PARTICIPATION
AGREEMENT WITH UCAID

SCHEDULE 2

REQUESTED CONNECTION TO ABILENE

[TO BE PROVIDED BY CONNECTOR; ONE PAGE FOR EACH REQUESTED CONNECTION]

1. Location of the Abilene Access Point: *4895 Outland Center Drive, Memphis, TN*

2. Means of Connecting to Abilene Access Point:

Either Name of the Local Loop Provider:

Or Brief summary of proposed connection

Local loop provider to be determined on the basis of competitive bid.

3. Actual or anticipated Start date of the Local Loop connection:

Timing of implementation will be determined by the date by which Qwest anticipates bringing their Memphis PoP to an operational status.

4. Requested Date of Abilene Connection:

Within 1 week of turning up the local loop connection.

5. Maximum bandwidth of this Abilene connection:

OC3c (X) OC12c ()

6. Framing of this Abilene connection:

POS (X) ATM ()

SCHEDULE 3

TECHNICAL AND EXECUTIVE CONTACTS

[NAME AND CONTACT INFORMATION TO BE PROVIDED BY CONNECTOR]

Executive Contact:

Dr. James I. Penrod

Vice President - Information Systems & Chief Information Officer

377 Administration Building

The University of Memphis

Memphis, TN 38152

jpenrod@memphis.edu

901-678-8324

Technical Contact:

Dr. Thomas J. Barton

Director - Information Systems Infrastructure

105C Administration Building

The University of Memphis

Memphis, TN 38152

tbarton@memphis.edu

901-678-2527

SCHEDULE 4

1999 CONNECTION FEES

EACH OC3C CONNECTION \$110,000.

EACH OC12C CONNECTION \$320,000.

DEPOSIT IS 10% OF COMBINED FEES FOR ALL
CONNECTIONS TO ABILENE.

THE UCAID FEDERAL ID # IS 52-2060187

ABILENE TERMS OF PARTICIPATION EFFECTIVE AS OF DECEMBER 1, 1998

1. Participation in the Abilene Network ("Abilene") is available only to Members of UCAID who (i) agree to adhere to these Abilene Terms of Participation, and (ii) are approved by UCAID for Abilene Participation ("Participants").
2. Traffic over Abilene shall consist of IP packets traveling between and among Abilene Participants. Each Participant shall determine the IP addresses to and from which Abilene traffic may travel and shall provide a list of such addresses to UCAID and update the list as needed.
3. A Participant may make access to Abilene available only to persons in the following categories, such persons to be selected by the Participant: (i) its students; (ii) members of its faculty; (iii) its employees; (iv) other individuals that normally have access to Participant's networks when Participant judges those individuals to fall within the spirit of the Abilene Conditions of Use, and (v) any other person with the prior written consent of UCAID.
4. In selecting the persons who will have access to Abilene, each Participant shall seek to ensure that the expected traffic over Abilene to and from such persons will consist primarily of research or educational materials and will otherwise conform to the Abilene Conditions of Use. The Abilene Conditions of Use currently in effect are set forth in Appendix A to these Terms of Participation. The Abilene Conditions of Use may be modified from time to time by UCAID. Each Participant shall inform the persons to whom it has provided access to Abilene about the Abilene Conditions of Use.
5. UCAID reserves the right to interrupt, suspend or reduce service to any Connector, any Participant, or any other person, when such action is necessary in UCAID's sole judgement. UCAID will endeavor where reasonably possible to provide advance notice to the Participant of any such interruption, suspension, or reduction. As soon as possible following the interruption, suspension or reduction UCAID will contact the Participant in an attempt to resolve any problems and restore service. If requested by UCAID Participant agrees to temporarily suspend some or all of its traffic and collaborate to resolve any problems. NOTWITHSTANDING ANY OTHER PROVISION OF THESE TERMS OF PARTICIPATION, UCAID SHALL NOT BE LIABLE TO ANY PARTICIPANT OR ANY OTHER PERSON FOR ANY ERROR IN TRANSMISSION OR FOR ANY INTERRUPTION OR TERMINATION OF PARTICIPATION, EITHER PARTIAL OR TOTAL, EITHER INTENTIONAL OR ACCIDENTAL

(INCLUDING ANY ERROR, INTERRUPTION OR TERMINATION DUE TO THE DELIBERATE MISCONDUCT OR NEGLIGENCE OF ANY PERSON), WHETHER OR NOT PRIOR NOTICE OF ANY SUCH INTERRUPTION OR TERMINATION HAS BEEN GIVEN.

6. This Abilene Participation Agreement may be terminated for convenience by the Participant, by giving 30 days notice to UCAID via fax or letter mail. No fees will be refunded by UCAID to a Participant in the event of termination for convenience.

UCAID may withdraw all or part of this service at some future date. In this event UCAID will endeavor to provide substantial notice and work with the Participant to effect a smooth transition.

This agreement may be terminated for cause by either party for failure of the other party to comply with the terms of this agreement. Prior to termination, the party wishing to terminate the agreement must notify the other party in writing of the reason(s) for termination and the party so notified will have five (5) business days to respond. If the parties concur that termination is appropriate they will execute a termination of this agreement. If the parties are unable to resolve the reasons satisfactorily to both parties then Section 14 will be used for the purposes of resolution.

7. Each Participant is responsible for all arrangements, both contractual and physical, for establishing its connection to Abilene. Such arrangements include, but are not limited to, providing, operating, and maintaining the equipment necessary for connection to Abilene. Although such arrangements are the Participant's responsibility, UCAID will provide advice and assistance as available, and UCAID has the right to object to any arrangement that it deems inconsistent with the objectives or the successful operation of Abilene.

8. UCAID will normally operate Abilene 24 hours per day every day. However, UCAID expects, and shall have the right, to suspend the operation of Abilene from time to time for purposes of testing and maintenance. UCAID will attempt to provide advance explanation and warning of changes to the service with a view to allowing mutually satisfactory implementation of end to end service.

In the event of an emergency and to protect the network or other Participants UCAID may modify, suspend, or discontinue any aspect of Abilene, without prior notice, impose limits on Abilene features and services, or restrict any Participant's access to any part or all of Abilene. As soon as possible thereafter, UCAID will contact the Participant in an attempt to resolve any problems and to reestablish service.

9. Participants are responsible for establishing and maintaining their own access security, including the security of user identification, passwords, and any other confidential information related to their participation. Participants' security standards for access to Abilene must conform to the Abilene Conditions of Use.

10. Each Participant shall promptly notify UCAID of any known or suspected unauthorized use of its access to Abilene and of any known or suspected breach of security. The Abilene NOC will notify the Connector and Participants of any known breach of or challenge to the Abilene network potentially affecting them.
11. Each Participant shall promptly notify its Connector and UCAID (via the Abilene NOC) of errors, system failures, or other interruptions in service of Abilene. For other service issues, a Participant should notify the Abilene Project Director or the Director's nominee. Names and contact numbers will be posted on the Abilene website.
12. ABILENE IS PROVIDED ON AN AS IS, AS AVAILABLE BASIS, WITHOUT WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NON-INFRINGEMENT. UCAID EXPRESSLY DISCLAIMS ANY REPRESENTATION OR WARRANTY THAT ABILENE WILL BE ERROR-FREE, SECURE, OR UNINTERRUPTED. NO STATEMENT, ORAL OR WRITTEN, GIVEN BY UCAID, ANY OF ITS EMPLOYEES, OR ANY OTHER PERSON WILL CREATE A WARRANTY, NOR MAY ANY PARTICIPANT RELY ON ANY SUCH STATEMENT FOR ANY PURPOSE.
13. A Participant may not assign any of its rights or obligations under its Abilene Participation Agreement to any other person without UCAID's written consent. This Abilene Participation Agreement is governed by New York law.
14. In the event of a dispute, the Participant and UCAID are required to negotiate in good faith for 60 days, and if the dispute is not resolved by such negotiation, to arbitrate the dispute before a single arbitrator in Washington, D.C.

The
seek

APPENDIX A

2. Over Conditions of Use for the Abilene Network (December

3. As T
Prim Executive Summary

4. As a project of the University Corporation for Advanced Internet, the Abilene network has established Conditions of Use (CoU) that serve the Internet2 project's goal of encouraging and enabling the development of network applications. Abilene provides for high-performance network traffic among participating gigaPoPs andUCAID Regular Member and other organizations whose connectivity benefits US higher education traffic primarily and clearly serves the teaching, learning, research, and missions of higher education in the US, and the related support and services. Abilene does not seek to compete with commodity Internet telecommunications services, and does not carry traffic unrelated to Internet2 goals, including traffic with proprietary, commercial, or other purposes. All Abilene participants agree to comply with conditions set forth byUCAID for using the Abilene network.

C.
1. As T
cate Each Abilene participant falls into one of three categories: Primary, Secondary, or Network. All Primary participants areUCAID Regular Member and universities, but may also be other types of research-related organizations. Secondary participants are nonprofit, research or educational or have been approved byUCAID to participate in the Abilene project. Network participants are other research or educational networks with which we have agreed to peer and which have agreed to conform to the Abilene Conditions of Use. No traffic is allowed among Primary participants. Any Primary participant may not exchange traffic with any other type of Abilene participant. Secondary and Network participants are only allowed to exchange Core Traffic with Primary participants. Secondary or Network participants may not exchange traffic with Primary or Network participants, except by special permission fromUCAID. The description of the Abilene CoU the principles, definitions, conditions, and procedures follows.

4. Purpose

D.
1. The Abilene network, a project of the University Corporation for Advanced Internet Development (UCAID) in collaboration with various corporations, exists to advance Internet2. Internet2 advances research and innovation in higher education by facilitating and enabling the development of network applications. Abilene supports the purpose of Internet2 by providing data networking among institutions of higher education in the United States and between those institutions and certain other research and educational institutions and networks whose connectivity benefits US higher education.

4. Except by special permission from theUCAID Board or its designee, Network participants may use Abilene only to carry Core traffic to or from Primary participants. Network participants may exchange with Abilene only traffic destined to or originating from organizations substantially similar to Primary participants in Abilene, and only under conditions substantially similar to those Abilene imposes on its participants.
5. Ancillary traffic may be mixed with permissible Core traffic to or from Secondary, Network, and Primary participants, provided that it neither interferes with transmission of Core traffic anywhere on the Abilene network nor averages more than 20% of total traffic.
6. Except as provided in the above Conditions, no Abilene participant or other entity may route traffic over the Abilene network, or permit its own network to be used to enable such routing, or may use the network for applications that unreasonably interfere with other participants' communications, or in ways that threaten the technical or organizational viability of Abilene, Internet2, orUCAID.
7. Participants are responsible for ensuring that their network routing and traffic meets the Conditions specified above. Abilene reserves the right to refuse traffic to and from participants that violate this Condition.

E. Interpretation, Disputes, and Adjudication

1. Participants seeking interpretation of Conditions of Use refer their queries toUCAID staff, who seek technical and other counsel as appropriate before publishing a response.
2. Participants seeking exceptions to these Conditions or proposing projects or connections that require Board approval submit full particulars toUCAID staff, who consult with theUCAID Board or its designee and make whatever special arrangements may be necessary.
3. Complaints about improper use of Abilene go in the first instance toUCAID staff. IfUCAID staff are unable to resolve the complaints, or if complaints originate withUCAID staff, then they are referred to theUCAID Board or, at the Board's discretion, to the Network Policy & Planning Advisory Council for resolution.

EXHIBIT A
CONNECTION TO ABILENE

[TO BE PROVIDED BY PARTICIPANT; THE NAME(S) OF THE
PARTICIPANT'S CONNECTOR(S)]

Self.

EXHIBIT B

ABILENE PARTICIPATION FEE

Applicant agrees to pay the Abilene Participation Fee or to submit a purchase order for the fee (\$20,000 per year, for 1999, made payable to UCAID) with this application with the understanding that should UCAID not countersign this application and return it to Applicant the fee will be refunded. The fee for each subsequent year will be payable before each anniversary of the Participation Date, unless either Applicant or UCAID has given notice of termination of Applicant's Abilene Participation more than 30 days before the anniversary of the Participation Date.

The UCAID Federal Employer ID # is 52-2060187

ABILENE CONNECTION FEE

When countersigned this Participation Agreement gives the Participant the right to send and receive traffic over Abilene, but the Participant is responsible for obtaining its own physical connection to Abilene and paying the appropriate fees. If that connection is through another institution, but the Participant would prefer to be billed directly by UCAID please inform UCAID as soon as possible.

021406

RFS #		Contract #			
State Agency		State Agency Division			
THE UNIVERSITY OF MEMPHIS					
Contractor Name		Contractor ID # (FEIN or SSN)			
INTERNET 2		C- or V- 52-2060187			
Service Description					
ABILENE CONNECTION FEE (GIGE)					
Contract BEGIN Date		Contract END Date			
7/1/07		6/30/08			
Subrecipient or Vendor?		CFDA #			
Mark Each TRUE Statement:					
<input type="checkbox"/> Contractor is on STARS		<input type="checkbox"/> Contractor's Form W-9 is on file in Accounts			
Allotment Code		Cost Center			
		340000			
Object Code		Fund			
		124000			
Funding Grant Code		Funding Subgrant Code			
FY	State	Federal	Interdepartmental	Other	TOTAL Contract Amount
'08	\$ 250,000.00				\$ 250,000.00
'09	\$ 250,000.00				\$ 250,000.00
'10	\$ 250,000.00				\$ 250,000.00
'11	\$ 250,000.00				\$ 250,000.00
'12	\$ 250,000.00				\$ 250,000.00
					\$ -
TOTAL:	\$ 1,250,000.00	\$ -	\$ -	\$ -	\$ 1,250,000.00
COMPLETE FOR AMENDMENTS ONLY			State Agency Fiscal Contact & Telephone #		
FY	Base Contract & Prior Amendments	THIS Amendment ONLY	ED KOSHLAND (901) 678-3861		
			State Agency Budget Officer Approval		
			Funding Certification (certification required by T.C.A. §9-4-5113 that there is a balance in the appropriation from which the obligated expenditure is required to be paid that is not otherwise encumbered to pay obligations previously incurred)		
TOTAL:	\$ -	\$ -			
End Date					
Contractor Ownership (complete only for base contracts with contract prefix FA or GR)					
<input type="checkbox"/> African American	<input type="checkbox"/> Person w/ Disability	<input type="checkbox"/> Hispanic	<input type="checkbox"/> Small Business	<input checked="" type="checkbox"/> NOT disadvantaged	
<input type="checkbox"/> Asian	<input type="checkbox"/> Female	<input type="checkbox"/> Native American	<input type="checkbox"/> OTHER minority/disadvantaged—		
Contractor Selection Method (complete for ALL base contracts—N/A to amendments or delegated authorities)					
<input type="checkbox"/> RFP	<input type="checkbox"/> Competitive Negotiation	<input type="checkbox"/> Alternative Competitive Method			
<input checked="" type="checkbox"/> Non-Competitive Negotiation	<input type="checkbox"/> Negotiation w/ Government (eg, ID, GG, GU)	<input type="checkbox"/> Other			
Procurement Process Summary (complete for Alternative Method, Competitive/Negotiation, Non-Competitive Negotiation, OR Other)					
PLEASE SEE RESPONSES TO SECTIONS 17 + 18 ON REQUEST: NON-COMPETITIVE CONTRACT					

REQUEST: NON-COMPETITIVE CONTRACT

APPROVED

Commissioner of Finance & Administration

Date:

Each of the request items below indicates specific information that must be individually detailed or addressed as required. A request can not be considered if information provided is incomplete, non-responsive, or does not clearly address each of the requirements individually as required.

1) RFS #	
2) State Agency Name :	THE UNIV. OF MEMPHIS
3) Service Caption :	
4) Proposed Contractor :	INTERNET 2
5) Contract Start Date : (attached explanation required if date is < 60 days after F&A receipt)	7/1/07
6) Contract End Date IF <u>all</u> Options to Extend the Contract are Exercised :	6/30/12
7) Total Maximum Cost IF <u>all</u> Options to Extend the Contract are Exercised :	\$1,250,000.00
8) Approval Criteria : (select one)	<input type="checkbox"/> use of Non-Competitive Negotiation is in the best interest of the state <input checked="" type="checkbox"/> only one uniquely qualified service provider able to provide the service
9) Description of Service to be Acquired :	RENEWAL FEE FOR EXISTING INTERNET 2 CONNECTION.
10) Explanation of the Need for or Requirement Placed on the Procuring Agency to Acquire the Service :	THE UNIV. OF MEMPHIS IS THE INTERNET 2 CONNECTOR SITE FOR THE STATE OF TN + ONE OF SPONSORS OF TN'S MEMBERSHIP IN SPONSORED EDUCATION GROUPS
11) Explanation of Whether the Procuring Agency Bought the Service in the Past, & if so, What Procurement Method It Used :	WE HAVE BEEN MEMBERS OF INTERNET 2 + CONNECTED SINCE 1999. SINCE SERVICE IS UNIQUE, IT WAS A SOLE SOURCE ACQUISITION. PARTICIPANTS (SEPP)
12) Name & Address of the Proposed Contractor's Principal Owner(s) : (not required if proposed contractor is a state education institution)	INTERNET 2, 1000 OAKBROOK DRIVE, SUITE 300, ANN ARBOR, MI 48104
13) Evidence of the Proposed Contractor's Experience and Length of Experience Providing the Service :	THE UNIV. OF MEMPHIS HAS USED THIS VENDOR SINCE 1999.
14) Documentation of Office for Information Resources Endorsement : (required <u>only</u> if the subject service involves information technology)	

select one:	<input type="checkbox"/> Documentation Not Applicable to this Request	<input checked="" type="checkbox"/> Documentation Attached to this Request
15) Documentation of Department of Personnel Endorsement : (required <u>only</u> if the subject service involves training for state employees)		
select one:	<input checked="" type="checkbox"/> Documentation Not Applicable to this Request	<input type="checkbox"/> Documentation Attached to this Request
16) Documentation of State Architect Endorsement : (required only if the subject service involves construction or real property related services)		
select one:	<input checked="" type="checkbox"/> Documentation Not Applicable to this Request	<input type="checkbox"/> Documentation Attached to this Request
17) Description of Procuring Agency Efforts to Identify Reasonable, Competitive, Procurement Alternatives :		
NO ALTERNATIVES ARE AVAILABLE		
18) Justification of Why the State Should Use Non-Competitive Negotiation Rather Than a Competitive Process : (Being the "only known" or "best" service provider to perform the service as desired will not be deemed adequate justification.)		
THE VENDOR POSSESSES EXCLUSIVE +/OR PREDOMINANT CAPABILITIES OR THE ITEMS CONTAIN A PATENTED FEATURE PROVIDING SUPERIOR UTILITY NOT		
REQUESTING AGENCY HEAD SIGNATURE & DATE : (<u>must</u> be signed & dated by the <u>ACTUAL</u> procuring agency head as detailed on the Signature Certification on file with OCR— signature by an authorized signatory will be accepted only in documented exigent circumstances)		
<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> <p style="font-size: 1.2em; margin: 0;"><i>Charles W. Manning RHA</i></p> <p style="font-size: 1.2em; margin: 0;"><i>Shirley C. Ramos</i></p> </div> <div style="width: 45%; text-align: right;"> <p style="font-size: 1.2em; margin: 0;">10-22-07</p> <p style="font-size: 1.2em; margin: 0;">10/9/07</p> </div> </div>		
Agency Head Signature		Date

OBTAINABLE FROM SIMILAR PRODUCTS. THE
PRODUCT OR SERVICE IS UNIQUE & EASILY ESTABLISHED
AS ONE OF A KIND. THE PRODUCT IS AVAILABLE
FROM ONLY ONE SOURCE & NOT MERCHANDISED THROUGH
WHOLESALEERS, JOBBERS & RETAILERS.

Internet2 at The University of Memphis

The University of Memphis (UoM) has been connected to Internet2 (I2) since June, 2000. The goal of I2 is to construct and operate an educational and research network with much greater bandwidth than typical of the current internet. As a member of I2, UoM is becoming the leader of Tennessee region to a new era in communication and collaborative technology. Our I2 connection will lead to the change of the way we are teaching, learning and researching. Until October of 2006, the only I2 members in the State of Tennessee are The University of Memphis, Vanderbilt University and the University of Tennessee, Knoxville, although there were some other institutions that were sponsored by these members. For example, UoM sponsored St. Jude Children's Research Hospital's participation in I2. UoM is also a gigaPoP (gigabit Point of Presence) site so we can serve as a connection point for others to I2. Currently, St. Jude connects to I2 via 100Mb/second links to UoM and the University of Tennessee Health Sciences Center connects to I2 via 1Gb/second links to UoM. UoM is also the only "connector" site in the State of Tennessee. This means we are the only site that connects directly to the Abilene - the Internet2 backbone network that connects regional network aggregation points. Our current connection to Abilene is a 2.5Gb/second link with current provisions to upgrade to a 10Gb/second link.

In October 2006, sponsored by the University of Memphis and the University of Tennessee, Tennessee became the 37th I2 Sponsored Education Group Participants (SEGP) state. The Tennessee SEGP, which will connect to Internet2's network through the U of M, brings together Tennessee K12 schools, institutions of higher learning including all TBR institutions, libraries, hospitals, performing arts centers and museums. Students will not only have access to new instructional materials, but also can participate in ongoing national programs developed by members of the Internet2 K20 initiative. In particular, the network will be used promote inter-cultural exchanges through high quality video-conferencing with school districts in Korea, China, and Russia.

Since we became a member of I2, our major I2 focus has been in the area of middleware and identity management. Automatic account provisioning which uses "feeds" from SIS, HRS and some supplementary systems provide the data input to a state machine which contains our business rules for account and identity maintenance and management. The output of this state machine is our LDAP directory which we use more and more for authorization and/or authentication, particularly for web based applications. Work in the area continues, particularly in the area of role management.

The last few years we have awarded TAF grants to allow faculty members to explore digitally recording classroom lectures which are then made available for viewing online within a few hours and to record supplemental classroom material which is made available online. We will continue to support that effort next year and will start exploring high bandwidth, broadcast quality video conferencing both inside of ITD and via faculty proposals for TAF grants for experimentation with and assessment of innovative uses of H.323 videoconferencing in the context of existing instructional programs. We have purchased and are operating an H.323 Multipoint Conferencing Unit (MCU) which will support 24 simultaneous endpoints to support these explorations.

We have also enabled and are exploring the use of multicasting on campus. Most high-level network protocols (such as TCP/IP or UDP) only provide a unicast transmission service. That is, hosts of the network only have the ability to send to one other node at a

time. All transmission with a unicast service is inherently point-to-point. If a node wants to send the same information to many destinations using a unicast transport service, it must perform a replicated unicast, and send N copies of the data to each destination in turn. A better way to transmit data from one source to many destinations is to provide a multicast transport service. With a multicast transport service, a single host can send data to many destinations by making just a single call on the transport service, thus improve network performance tremendously. There is currently an I2 experimental Multicast Backbone, called the MBone, which is exploring applications of IP multicast.

General Internet2 Information

Internet2 is a consortium of over 300 member institutions, including leading U.S. universities (209 research universities), corporations, government research agencies, and not-for-profit networking organizations which focuses on developing and deploying advanced networking technologies and capabilities in service of U.S. research and higher education. The primary goals of Internet2 are to: create a leading edge network capability for the national research community, enable revolutionary Internet applications, and ensure the rapid transfer of new network services and applications to the broader Internet community. Some of applications enabled by Internet2 are virtual laboratories, digital libraries, distance education and tele-immersion, as well as the advanced networking capabilities in general.

Internet2 is also a national and international collection of interconnected high performance networks that allow sites attached to these networks to interact in ways that are not possible using the commodity Internet. Internet2 networks are a significant advance in networking technology. Partly driven by the shortcomings of the commodity Internet, but more by a desire to allow the creation of new network applications that are not possible on the regular Internet, Internet2 has as one of its goals, providing the opportunity for end users and their applications to exercise control over their connection primarily in regard to network performance. This control will allow reservation of bandwidth for some period of time and the ability to specify other parameters such as bounds on the delay that occurs between the sending and receiving of data. This is what is called a "quality of service" or "QoS." Networks that can provide a particular QoS will be far more predictable than networks that exist today. This predictability is what will enable the creation of new applications.

Research and collaboration in the I2 community takes place in a variety of area:

Applications Area:

Arts and Humanities, Commons, Digital Video, Geospatial,
Orthopaedic Surgery, ResearchChannel, Voice over IP, Medical Middleware

Backbone Network Infrastructure Area:

IP Optical

End-to-End Performance Area:

Peer-to-Peer

Engineering Area:

Campus Bandwidth, Management, IPv6, Multicast, Topology

Middleware Area:

MACE (Middleware Architecture Committee for Education)-Dir, MACE-Shibboleth,
MACE-WebISO,
VidMid Video Conferencing, VidMid Video on Demand,

Middleware Working Groups in cooperation with EDUCAUSE:
HEPKI-PAG (PKI Policy)
HEPKI-TAG

See <http://www.internet2.edu/working-groups.html> for more information on these I2 Working Groups.

List of Domestic Peer Networks

DREN - The Defense Research and Engineering Network (DREN) is the U.S. Department of Defense recognized research and engineering network.
ESnet - The Energy Sciences Network (ESnet), is a high-speed network serving thousands of U.S. Department of Energy scientists and collaborators worldwide.
NISN - NASA Integrated Services Network. The NASA Integrated Services Network (NISN) is the result of the consolidation of the management responsibility for the various NASA wide area telecommunications networks under a single organization.
NREN - NASA Research and Education Network Project. The NREN Project vision is to create a next generation network test bed that revolutionizes end-to-end applications for NASA missions and the Nation.
vBNS (very high performance Backbone Network Service). MCI/Worldcom and the National Science Foundation have developed this high-performance Internet2 backbone network to support research and education

Peer Networks Reachable via Abilene - by Region

Europe-Middle East

Austria (ACOnet)
Belgium (BELnet)
Croatia (CARnet)
Czech
Rep. (CESnet)
Cyprus (Cynet)
Denmark (UNI-C)
Estonia (ESnet)
Europe (GEANT)
Finland (FUNet)
France (RENATER)
Germany (G-Win)
Greece (GRnet)
Hungary (HUNGARnet)
Iceland (ISnet)
Ireland (HEAnet)
Israel (IUCC)
Italy (GARR)
Latvia (LATNET)
Lithuania (LITNET)
Luxembourg (RESTENA)

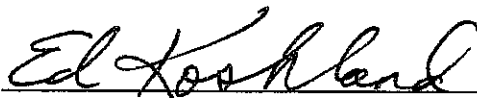
Netherlands (SURFnet)
Norway (UNINETT)
Poland (PCSS)
Portugal (FCCN)
Romania (RNC)
Russia (RIPN)
Slovakia (SANET)
Slovenia (ARNES)
Spain (RedIris)
Sweden (SUNET)
Switzerland (SWITCH)
United Kingdom (JANET)
*CERN

Asia-Pacific

Australia (AARNET)
China (CERNET, CSTNET, NSFCNET)
Hong Kong (HARNET)
Japan (SINET, WIDE, IMNET, JGN)
Korea (KOREN, KREONET2)
Singapore (SingAREN)
Philippines (PREGINET)
Taiwan (TANET2)
Thailand (UNINET, ThaiSARN)

Americas

Argentina (RETINA)
Brazil (RNP2/ANSP)
Canada (CA*net)
Chile (REUNA)
Mexico (CUDI)
United States (Abilene, vBNS)
Venezuela (REACCIUN-2)



Ed Koshland
Director of Research Technologies and Infrastructure
Information Technology Division
The University of Memphis

Prior years Purchase order

THE UNIVERSITY OF MEMPHIS®

Purchasing Department
115 Administration Bldg
Memphis, TN 38152-3370
Phone (901) 678-2265 Fax (901) 678-2102

PURCHASE ORDER

THIS NUMBER MUST BE SHOWN ON ALL
INVOICES, PACKAGES AND
CORRESPONDENCE RELATED TO ORDER.

ISSUED TO: Internet2
1000 Oakbrook Dr Ste 300
Ann Arbor MI 48104

PO Number: **P0007590**

Issue Date: 07/03/06

Page No: 1

Delivery Date: 07/03/06

Vendor ID: U00005704

Please supply the following items or services in accordance with terms of your quotation, to the University of Memphis, Memphis, TN. ALL DELIVERY CHARGES ARE TO BE PREPAID AND INCLUDED IN THE PRICES SHOWN UNLESS OTHERWISE INDICATED BELOW. Cash discounts, when authorized, will be computed from the date of delivery or from the date correct invoices are received, whichever is later.

SHIP TO:

SEND INVOICE IN DUPLICATE TO:

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112 Administration Bldg
3720 Alumni Dr
Admin Bldg Room 112
Memphis TN 38152-3370
ATTN: Tina Magueyal

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University of Memphis
Accounting Office
275 Administration Bldg
Memphis, Tennessee 38152-3370

THE UNIVERSITY OF MEMPHIS IS AN EQUAL OPPORTUNITY, NON-RACIALLY IDENTIFIABLE, EDUCATIONAL INSTITUTION THAT DOES NOT DISCRIMINATE AGAINST INDIVIDUALS WITH DISABILITIES.

ITEM	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	EXTENSION
			Funds available to the University of Memphis are appropriated on an annual fiscal basis. Tennessee Code Annotated, Section 9 - 611 and 9 - 612, prohibits contractual obligations other than for current appropriations. Therefore, the University of Memphis obligation hereunder is contingent on the availability of appropriated funds for which payment for the contract purposes can be made. No legal liability on the part of the University of Memphis for payment of any monies shall arise unless and until funds are made available to the Director of Procurement Services for this procurement. Orders placed prior to the beginning of the University's fiscal year (July 1) are accepted by the vendor subject to the funds availability clause as stated in the purchase		
				TOTAL:	CONTINUED

MSDS SHEETS MUST BE FURNISHED WITH SHIPMENT FOR APPLICABLE PRODUCTS. IF MAILED SEPARATELY FROM SHIPMENT, OUR PURCHASE ORDER NUMBER MUST BE SHOWN ON THE SHEET.

DROP SHIPMENTS MUST SHOW ORIGINAL VENDOR AND OUR ORDER NUMBER.

ACCOUNTING INFORMATION:

124000-340000-74431 110,000.00

AUTHORIZED
SIGNATURE:

Carole Robbins
FOR THE UNIVERSITY OF MEMPHIS

VENDOR COPY

THE UNIVERSITY OF MEMPHIS®

Purchasing Department
115 Administration Bldg
Memphis, TN 38152-3370
Phone (901) 678-2265 Fax (901) 678-2102

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Page No: 2
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ITEM	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	EXTENSION
			<p>order. However, in no event will deliveries be made or accepted by the University of Memphis prior to the date required as listed on the purchase order.</p> <p>*****</p> <p>Furnish maintenance support on the below listed software program(s) or module(s) for the period of time as stated in the Start date and End date section of this purchase order. The location of this software is listed in the above Ship To section. All invoices are to be annotated with this purchase order number, department name, and name of the software, license agreement number(s) if applicable. The actual end user(s) will be listed below in the item numbers and may or may not be the location listed in the above Ship To</p>		
				TOTAL:	CONTINUED

MSDS SHEETS MUST BE FURNISHED WITH SHIPMENT FOR APPLICABLE PRODUCTS. IF MAILED SEPARATELY FROM SHIPMENT, OUR PURCHASE ORDER NUMBER MUST BE SHOWN ON THE SHEET.

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FOR THE UNIVERSITY OF MEMPHIS

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University of Memphis
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275 Administration Bldg
Memphis, Tennessee 38152-3370

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ITEM	QUANTITY	UNIT	DESCRIPTION	UNIT PRICE	EXTENSION
1	1.00	EA	<p>section of this purchase order</p> <p>*****</p> <p>Support period from July 1, 06 thru June 31, 07</p> <p>Abilene Connection Fee</p>	110,000.0000	110,000.00
TOTAL:					110,000.00

MSDS SHEETS MUST BE FURNISHED WITH SHIPMENT FOR APPLICABLE PRODUCTS. IF MAILED SEPARATELY FROM SHIPMENT, OUR PURCHASE ORDER NUMBER MUST BE SHOWN ON THE SHEET.

DROP SHIPMENTS MUST SHOW ORIGINAL VENDOR AND OUR ORDER NUMBER.

AUTHORIZED
SIGNATURE: _____

FOR THE UNIVERSITY OF MEMPHIS

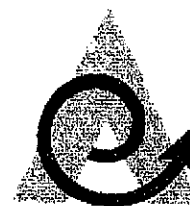
ACCOUNTING INFORMATION:

124000-340000-74431 110,000.00

VENDOR COPY

INTERNET²

R0002994



Abilene

Abilene Connection

Bill To
Mr. Ed Koshland
The University of Memphis
112 Administration Building
Memphis, TN 38152-3370

INVOICE NO. 3884
DATE ISSUED 4/27/2006
TERMS Due upon receipt

Description	Amount
-------------	--------

Abilene Connection Fee (OC3)	\$USD 110,000.00
For Period of 7/1/2006 - 6/30/2007	
For The University of Memphis	
Please Pay This Amount	<u>\$USD 110,000.00</u>

REMITTANCE STUB

(Please Return)

Account #: 10451

Invoice #: 3884

UCAID
PO Box 7855
Ann Arbor, Michigan 48107

Abilene Connection Fee
(OC3)

\$USD 110,000.00 []

Payment can be made in two ways. Please be sure to
reference your invoice number on any payment remittance.
All amounts are in USD. Thank you.

Total \$USD 110,000.00

ACH Deposit to:	Checks Payable to:
Bank of Ann Arbor	Internet2
Routing Number: 072413735	PO Box 7855
Account Number: 0100012418	Ann Arbor, Michigan 48107

TAX ID #: 52-2060187

1000 Oakbrook Dr. Suite 300 Ann Arbor, MI 48104 phone 734.913.4250 fax 734.913.4255

Internet2 Payments

Year	Invoice Date	Payment Date	Amount
1999	3/2/99	3/24/99	\$ 25,000.00
	6/2/99	6/22/99	\$ 20,000.00
	6/2/99	6/22/99	\$ 11,000.00
2000	11/23/99	12/13/99	\$ 25,000.00
	6/1/00	6/8/00	\$ 5,000.00
	6/20/00	7/17/00	\$ 99,000.00
	10/31/00	12/6/00	\$ 20,000.00
2001	11/15/00	12/18/00	\$ 25,000.00
	6/6/01	7/20/01	\$ 10,000.00
	5/1/01	7/27/01	\$110,000.00
	9/27/01	10/23/01	\$ 20,000.00
2002	11/5/01	11/30/01	\$ 25,000.00
	6/7/02	7/26/02	\$ 10,000.00
	6/10/02	8/12/02	\$110,000.00
	8/26/02	9/18/02	\$ 20,000.00
2003	11/27/02	12/6/02	\$ 26,250.00
	3/3/03	3/4/03	\$ 250.00
	5/23/03		\$ 13,000.00
	6/4/03		\$110,000.00
	8/14/03	9/9/03	\$ 20,000.00
2004	11/25/03	12/2/03	\$ 27,000.00
	7/30/04	8/26/04	\$ 20,000.00
	5/24/04	8/27/04	\$110,000.00
	5/20/04		\$ 13,000.00
	7/30/04	8/26/04	\$ 20,000.00
2005		1/20/05	\$ 27,000.00
	7/7/05	7/8/05	\$ 13,500.00
	7/21/05	7/22/05	\$110,000.00
	7/21/05	7/22/05	\$ 6,931.50
	12/5/05	12/5/05	\$ 28,500.00

2006	6/21/06	6/21/06	\$110,000.00
	6/29/06	6/30/06	\$ 13,500.00
	8/17/06	8/18/06	\$ 21,000.00
	11/14/06	11/15/06	\$ 33,140.52
	12/18/06	12/19/06	\$ 30,000.00
2007	6/28/07	6/29/07	\$250,000.00
	8/27/07	8/28/07	\$ 22,000.00
	8/27/07	8/28/07	\$ 48,000.00